

# **Software Engineering**

## **Requirements Specification**

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“Your writing is both inspirational and motivating...”

Halima Sarki

Abuja Nigeria

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# **Introduction**

In The Name of Allah, The Entirely  
Merciful The Especially Merciful

This is a book about briefing the  
steps carried out in a Software  
Engineering Project, concentrating on  
the steps of Conception i.e.

Requirements Elicitation and  
Objectives gathering Completion.

The essence of Software  
Engineering, is to get i.e. a big  
Software Project, methodically, from  
conception/ requirements elicitation  
to completion i.e. deployment,  
maintenance and documentation( in  
some of the Software Methodologies)

I have purposely kept it short,  
for brief reading.

## **Text(Matn)**

All praises be to Allah and  
salutations and peace be upon the  
Prophet Muhammad, His Family, His  
Companions and all those that follow  
him until the day of Judgement

To proceed

## Steps of conception of a Software Project

1. Identify the problems of the current Software System
2. Collect information( detailed) to completely understand the current system
3. Then collaborate with the End-users and/ or the stakeholders to identify the new System's specification that is required



4. As a software Engineer/ Architect or Software Consultant, you can suggest possible Systems specifications that would solve the problems of the old/ current System.

5. During this first stage of requirements elicitation/ conception of a Software Project, you can make use of:

a. online surveys

b. offline surveys

c. one-one questioning of the relevant parties (involved) i.e. stakeholders, end-users etc. of the new system to be created.

d. group interviewing i.e.

(i) online focus groups

(ii) offline focus groups

e. Non-invasive Observation of the end-users workflow

Viewing the Users and their workflows and processes(with regard to the current System). This is done in a non-invasive way i.e. making notes on your observes without having to directly communicate with the end-users etc.

This is to identify important points that might not otherwise come to light easily from the other methods

f. Self-use of the System by the  
Software Engineer/ Architect/  
Consultant etc.

Make sure you have the correct  
(login credentials,) privileges and  
permissions to access the relevant  
parts of the System required for  
assessment

(I) For websites, a sand-box can be  
used i.e. a dummy system or backup  
e.g. local host on your own computer  
or a designated computer from the  
Company you are working with/ for

(iii) You use a backup, dummy system and/or sandbox system in-order that you do not damage/destroy the (current) live system by mistake. These can be expensive time-consuming unprecedented events.

(iv) The **Latest** live backup/ copy would usually be best...depending on the objectives of the new project.

g. Access previous system copies of the current/ old system that are relevant to the new desired project; if required

6. It is also important to identify if the project to be completed/ carried out is a brownfield or greenfield project, before you even get too far in the analysis.

Preferably, prior to even starting the project. This is usually specified in the Job specification before you apply for the job/ project and before

making your proposal to receive the contract/ job/ project

a. Brownfield- System already exists; it either needs

(I) updating

(ii) configuring

(iii) fixing of certain parts of it i.e. broken modules

b. greenfield: Completely new system is required that doesn't already exist in the Company you

are working with/ working for i.e.

bespoke software

(i) a completely new system can be created, or can be built upon software from external sources from the Company. However verify licenses and be aware which software has those types of permissions for tweaking for commercial use.

(ii) researching on the issue of copyrights and educating yourself on that go a long way for preventing



time-consuming and expensive mistakes as you go forward in the project towards deployment, maintenance etc.

(iv) If the System is a website, you as the Software Engineer/ Consultant/ Architect can request from the end-users/ stakeholders, websites that they wish the new system to look like or to function like i.e. themes and plug-ins for example

if you are using WordPress to develop the new project. Or possibly websites/ webpages that have a similar train of thought of information needed for the new Software Project/ they'd like to put in the new Software System.

(ii) For a new Desktop Software( bespoke) system for example, the end users/ stakeholders can identify which software is similar that already exists(internationally,nationally,

locally etc.) which can be used for the project at hand as a preliminary rough blueprint/ project skeleton.

N.B: Issues of copyright laws and knowledge of different license types and replication, use and manipulation of different intellectual properties must be well understood before delving to deep, especially in greenfield projects

# **Bonus Chapter**

General Cycle of a Software

Engineering Project

1. Requirements specification
2. Objectives of the new Project
3. Design i.e.: prototyping,  
wireframe diagrams, use of

UML( unified modelling language)  
etc.

4. Software programming/  
Implementation of the actual code  
for the Software

5. Testing the Software i.e.

- a) unit testing
- b) black box testing
- c) White box testing etc.

## 6. Deployment- i.e.

Making the software live to to the end users

a. i.e. continuous Integration and Deployment( CI/ CD) as in the Agile Methodology

b. In the waterfall model, generally deployment happens only once in in the project.

## 7. Documentation:

This is done more in the Waterfall model for example.

## 8. Maintenance (of the Software System)

## **FINAL PRAYER**

All Praises abundant and plentiful belong to Allah, and peace be upon his final Messenger Muhammad, peace and blessings be upon him, his family, his companions and all of those that follow them till the day of Judgement.

## **FINAL WORD**



If you liked the reflective quotes, check out in the links below what was part of the fruits of this work:

1. [www.edriskibalama.com](http://www.edriskibalama.com)

A website on creatively designed inspirational quotes images and a [portfolio](#) section outlining my achievements thus far.

2.

[www.muslimhomeschoolsoftware.com](http://www.muslimhomeschoolsoftware.com)

A website on Home Educational Software for children with an Islamised and Ethical curriculum

3.

[www.intelligentmindsconsultancy.com](http://www.intelligentmindsconsultancy.com)

A website on IT support, WordPress support and IT consultancy

4. [www.eddykibs.com](http://www.eddykibs.com)

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5. To contact me and see my works:

[www.linkedin.com/in/edriskibalama/](http://www.linkedin.com/in/edriskibalama/)

5. Other published books

Search: “Edris Kibalama” on

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## **Bonus Chapter 1**

3 types of souls

1. Mutma innah- Surah Fajr Verse

27(The break of day or The Dawn)

2. Lawwaamah- Chapter 75 Surah

Qiyaamah(The Resurrection) Verse 2

3.Amru bissuw-

Hisnul Muslim- Qahtani

3 types of hearts

1. Qalbun Saliim( A sound heart)

## 2. Qalbun Mareedh( A sick heart)

Oh Allah give us a complete cure  
that leaves no illness Ameen.

## 3. Qalbun Mayyit( A dead heart)

May Allah protect us from this  
Ameen

## **Bonus Chapter 2**

All praises be to Allah and  
salutations and peace be upon the  
Prophet Muhammad, His Family, His  
Companions and all those that follow  
him until the day of Judgement

To proceed

1. If you don't let go to worldly love,  
you'll never know which relationship  
is meant to be permanent, and  
which was meant to be temporary;  
for the good of yourself.



Take the example of Prophet Ibrahim (upon him be peace and Salaam):

The important thing (wa Allahu A'laam/ and Allah knows best) is that Allah wanted Ibrahim ( 'aleihimussalaatu wa salaam/ upon him be peace and Salaam) to sacrifice the love of his son from his own heart.

Like the story of the 2 sons of Adam; Allah wanted to see who

would part from the dunia/worldly life from their hearts( wa Allahu A'laam/ and Allah knows best), by giving their best possessions i.e. the crops

Allah is Assamad(He is in need of noone/nothing, but all are in need of him).

So the conclusion is that Allah wants us to go to Him with Qalbun Salim(a pure heart).

May Allah allow us to live and die with Qalbun saliim(a pure heart)

**May Allah guide us all**

**Ameen**

**Bonus Chapter 3**

All praises be to Allah and  
salutations and peace be upon the  
Prophet Muhammad, His Family, His  
Companions and all those that follow  
him until the day of Judgement

To proceed

Fronting wouldn't be such an  
accurate name for 'gra gra', as they  
call it in Nigeria.

In Nigeria, the social system/  
system of daily interaction/  
operation is set by the people( of-

course by the permission of Allah), in their own way.

Trying to compare Nigeria with another country is like trying to compare tomatoes and potatoes, they are not the same; a vegan would definitely tell you that. Some Nigerians will go as far as telling you that:

“There are the Blacks, the whites, and then the Nigerians “

or thereabout, which in my (almost  
a) years experience in Nigeria, I  
would definitely agree with this  
idiom. This is from the angle of  
Nigeria and its people

I can categorically say that  
gragra is a spiritual system that  
Nigerians use to carry out their day  
to day tactical activities and  
strategies.

I must admit, I've never seen  
any system in the world so solid.

Much of their tactics and strategies( ...) with regards to the 'gragra' is not even written down.

Gragra is a spiritually etched system in the souls of the people living in Nigeria (both Nigerians and foreigners who have assimilated long enough in Nigeria).

As a practising Muslim( by the permission of Allah), I only wished to analyse the positive side of this so-called gragra.

In conclusion, at the end of the  
gragra, you get all the things you  
need( by the will of Allah), not  
necessarily what you  
want( especially if it is not good for  
you). This is from an Islamic and  
spiritually inclined point of view.

Just as a final warning:

**Nigeria is not for the faint-  
hearted nor the dumb-witted.  
You also have to have contacts**



**in high places to (generally)  
positively live there.**

## **Bonus Chapter 4**

All praises be to Allah and  
salutations and peace be upon the  
Prophet Muhammad, His Family, His  
Companions and all those that follow  
him until the day of Judgement

To proceed

4 Parts to the Qadar( Pre- destiny of  
Allah)

1. Al 'Ilm( knowledge)

That Allah knows everything  
that was, everything that is(now),

everything that is going to be/ that will happen( in the future), and also things that **if they were to happen**, how they would happen.

## 2. Al Kitaabah( The writing)

That Allah instructed the pen to write all the things that will happen(till eternity- And Allah knows best), 50, 000 years before the creation of the Heavens and Earth.

### 3. Mashi a( Will)

That everything happens by the will of Allah.

That we also a will, but ultimately, it is still under the will of Allah.

### 'Aml( Action/ Deeds)

That Allah created/ creates everything, including our actions.